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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/471,920	12/23/1999	KAMERAN AZADET	10-2	8106

7590 03/08/2005

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EXAMINER

PHU, PHUONG M

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/471,920

Applicant(s)

AZADET ET AL.

Examiner

Phuong Phu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,13-15,18-20,23-27,29-35,38,47,48,50,51,53,54,56,57 and 59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-15,18-20,23,38,50,53,54 and 59 is/are allowed.
- 6) ☒ Claim(s) 1-10,24-27,29-35,47,48,51,56 and 57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/10/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the RCE filed on 02/10/05 and the Amendment filed on 11/12/04.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-10 and 24-27, 29-35 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.

Claim 1 omits step(s) showing functional/operational interrelationships of step “selecting path having a best path metric for a given state” with other steps of “precomputing branch metrics...”, “storing said precomputing branch metrics...” and/or “selecting one of said precomputed branch metrics...”, recited in the claim.

Similarly, claim 24 omits step(s) showing functional/operational interrelationships of step “selecting path having a best path metric for a given state” with other steps recited in the claim.

Claims, depended on above claims, are also rejected with the above corresponding reasons.

4. Claims 47, 48, 56-57 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Claim 47 omits functional/structural/connectional interrelationships of element “add-compare-select unit” with other element(s), e.g., “branch metric unit”, “pipeline register”,

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“multiplexer”, etc., recited in the claim, for making the claimed signal processor being a complete connective, operative system.

Similarly, claim 56 omits functional/structural/connectional interrelationships of element “add-compare-select unit” with other element(s) recited in the claim, for making the claimed signal processor being a complete connective, operative system.

Claims, depended on above claims, are also rejected with the above corresponding reasons.

5. Claim 48, 51 and 57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 48 and 51 recite the limitations “said decision” and “the survivor memory unit”. These limitations are lack of antecedent basis.

Claim 57 recite the limitation “the survivor memory unit”. This limitation is lack of antecedent basis.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

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do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 3, 5-10, 47 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhong et al (5,970,104), previously cited.

As per claims 1 and 47, see figures 1, 3A and 5, and col. 2, line 22 to col. 3, line 20, Zhong et al discloses a method and associated system wherein the method/system comprises:

step/means (120) (see figure 1) for pre-computing branch metrics using received signal (108) for sequences of symbols (106) (see col. 2, lines 26-33 and 63-66);

step/means (120) for storing said pre-computing branch metrics in a memory (120 or 334) (see figures 1 and 3A) wherein 4 rows or 4 columns of the memory form 4 pipeline submemories (considered equivalent with the limitation "at least one pipeline register"), (see also col. 4, lines 29-62).

step/means (120, 112) (see figure 1) for selecting one of said pre-computed branch metrics from one of said pipeline memories based on a symbol (121) or (b2, b1) (see figure 3B) from or corresponding to a state selected from a state set of (00, 01, 10, 11) (see also col. 3, lines 4-14, and col. 5, lines 17-47); and

step/means (114, 123) (see figure 1) for selecting a path having a best path metric for a given state (see also figure 5, and col. 6, line 66 to col. 7, line 26).

As per claim 3, Zhong et al discloses that said path metric is an accumulation of said corresponding metrics overtime (see figures 2, 4 and 5, and col. 3, line 14 to col. 4, line 28 and col. 6, line 44 to col. 7, line 35).

As per claim 5, in Zhong et al, said best path metric is inherently a path metric.

As per claims 6-10, in Zhong et al, said method/system inherently utilizes a technique or an algorithm.

As per claim 48, Zhong et al discloses that a decision (121) is taken from a unit (114) (see figure 1).

Allowable Subject Matter

8. Claims 13-15, 18-20, 23, 38, 50, 53, 54 and 59 are allowed.
9. Claims 24-27, 29-35, 56 and 57 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
10. Claims 2, 4 and 51 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments filed on 11/12/04 have been fully considered but they are not, in part, persuasive.

-IDS filed on 1/26/04, which had been considered and initialed by the examiner, was mailed to the applicant on 2/1/05.

-Claims 13-15, 18-20, 23, 38, 50, 53, 54 and 59 are now indicated allowable, as set forth in this Office Action.

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-Claims 2, 4, 24-27, 29-35, 51, 56 and 57 are not allowed because of being rejected under *35 USC § 112* with reasons set forth above in this Office Action.


-Claims 1, 3, 5-10, 47 and 48, after being amended by the amendment filed on 11/12/04, are deemed not overcome Zhong et al with reasons set forth above in this Office Action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Phuong Phu
02/25/05

PHUONG PHU
PRIMARY EXAMINER

Phuong Phu
Primary Examiner
Art Unit 2631